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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,133	12/15/2005	Natsuko Sugiura	52433/830	6256
26646	7590	01/23/2008		
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER YEE, DEBORAH	
			ART UNIT	PAPER NUMBER
			1793	
			MAIL DATE	DELIVERY MODE
			01/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,133	Applicant(s) SUGIURA ET AL.	
	Examiner Deborah Yee	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-17 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/15/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/031669 (Yokoi et al), which was cited by Applicants in IDS dated December 15, 2005.

3. Yokoi et al in Tables 3 and 4-1 to 4-3 on pages 67 to 70 discloses specific examples of hot-rolled steel sheet that meet the claimed composition. In addition, steel examples exhibit ferrite or bainite as the maximum phase in terms of percent volume and satisfy the claimed X-ray random intensity ratios of at least at $\frac{1}{2}$ of the sheet thickness wherein $[100]<011>$ to $\{223\}<110>$ orientation is 3.0 or more and $\{554\}<225>$, $\{111\}<112>$, $\{111\}<012>$ orientation is 3.5 or less.

4. Even though r-value of 0.7 or less, anisotropy of local elongation Δu_{EL} is 4% or less, $\Delta LE1$ is 2% or more, X-ray random intensity ratio of $\{100\}<011>$ is larger than $\{211\}<011>$, aging index AI is 8 MPA or more and iron carbide with diameter of 0.2 μm or more is 0.3% or less as recited by one or more of the claims is not taught by Yokoi et al., such properties would be expected because composition and other X-ray ratio properties are met, the process of making steel sheet is closely met and in absence of proof to the contrary.

5. Similar to present invention, Yokoi et al. in Table 4-1 and on lines 1 to 12 on page 10 disclose analogous steel alloy sheet processed in substantially the same manner as claimed by Applicants comprising the steps of reheating steel slab in the temperature range of 1000-1300C followed by hot rolling with a total reduction ratio of 25% or more in the temperature range of $Ar3+100C$ or lower at a controlled friction coefficient of not more than 0.2 and then cooling and coiling at below critical temperature T_o and within the temperature of 400 to 700C.

6. Note specific examples in Table 4-1 of Yokoi et al closely meet process recited by claims 12 to 14. For instance, Steel A1 is reheated to 1230C followed by hot rolling at $\leq 915C$ with a reduction of 42% and a friction coefficient of 0.08. In addition, the finishing hot rolling end temperature, TFE, is 890C, which is greater than $Ar3$ and greater than 800C, and therefore meets claimed equation (1) and (1'). Moreover the temperature at finishing hot rolling start, TFS, is not disclosed but it has to be lower than 915C, the $Ar3+100C$ temperature, since Yokoi et al teaches hot rolling at $Ar3+100$ or lower. Hence assuming 915C is the TFS, the $TFS-TFE = 915-890 = 25$, which would meet $20 \leq TFS - TFE \leq 120C$ of equation (4) recited by claim 12. Moreover, the method of Yokoi et al on pages 29, and 41-42 utilizes essentially the same, T_o , B and M_{neq} and $Ar3$ equations recited by Applicants' claim 12 in its process of making steel sheet; and also on lines 25-35 on page 42 teaches skin pass rolling which meets Applicants' claim 14.

Allowable Subject Matter

7. Claims 15 to 17 are allowed.

8. The following is an examiner's statement of reasons for allowance: The art of record does not teach or fairly suggest the method of producing a high-strength hot rolled steel sheet, as recited by claims 15 to 17, comprising the steps of hot rolling a cast slab or cooled once, then reheated to a range of 1000 to 1300C, with total reduction ratios of 25% or more at Ar_3 to $(Ar_3 + 150)$, whereby the temperature at finishing hot-rolling start, TFS, and temperature at finishing hot-rolling end, TFE, and residual strain $\Delta\epsilon$, which is calculated base on equivalent strain ϵ_i , satisfies the claimed equation(3), $\Delta\epsilon \geq (TFS-TFE)/375$.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/
Primary Examiner
Art Unit 1793

/DY/